

**EPA Region 10
PCB Compliance Inspection Report**

Inspection Information

Facility Name: Rainier Commons, LLC

EPA ID Number: WAD051230004

Inspection Date: September 1, 2009

Inspection Type: Sampling

Inspection Team: Bruce Long, USEPA Oregon Operations Office, Office of Compliance and Enforcement, Inspection and Enforcement Management Unit; 503-326-3686. long.bruce@epa.gov. Tristen S. Gardner, Pesticides and Toxics Unit. 206.553.6240. gardner.tristen@epa.gov.

FTD-4

Site Contact Information

Contact Name/Title: Mr. Eitan Alon, Property Manager; Ariel Development, LLC

Location Address: 3100 Airport Way South, Seattle, Washington 98134

Latitude: 47.576224 **Longitudes:** -122.321200

Mailing Address: 1425 5th Avenue, Suite 2625, Seattle, Washington 98027

Phone Number: 206-447-0263 x203

Fax Number: 206-447-0299

Report Information

Report Start Date: September 1, 2009

Date Report Completed: October 6, 2009

Report Author Name: Bruce Long

Report Author Signature: Bruce Long

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Photograph Log – September 1, 2009

I – Maps and Arial Photos

II – Narrative Report from Mach 2009

III – PCB Sample Plan for September 1, 2009

IV – Notice of Inspection – September 1, 2009

V – Sample Plan and Sample Results

General Facility Information

The Rainier Commons, located in the Georgetown District of South Seattle, is the former Rainier Brewery Building which was first built in 1884. The Old Brewery facility is approximately 4.57 acre parcel with 26 buildings located at 3100 Airport Way South, Seattle, Washington. The Brewery is bound by South Stevens Street to the north, by South Horton Street to the south, by Interstate 5 to the east and Airport Way to the west (Maps, Page 1). The property was purchased by Rainier Commons, LLC in August 2003 from the Benavoya Foundation (See March 24, 2009 Report; Attachment III, Page I). The properties current use is a coffee roasting and storage facility, artist loft (Music and other arts), two restaurants and residential.

The Rainier Commons is owned by the Rainier Commons, LLC, but is managed by Ariel Development, LLC. There are common members in both organizations (See March 24, 2009 Report; Attachment III).

Facility NAISC No: 445290 and 721310

Current Site Contact Information: Rainier Commons, LLC

Contact Name/Title: Mr. Brett Goldfarb, Member

Mailing Address: 14255 5th Avenue, Suite 2625, Seattle, Washington 98027

Phone Number: 503-829-7200

Fax Number: 503-829-7320

Current Site Contact Information: Ariel Development, LLC

Contact Name/Title: Mr. Eitan Alon, Property Manager

Mailing Address: 3317 3rd Avenue South, Seattle, Washington 98134

Phone Number: 206-447-0263 x203

Fax Number: 206-447-0299

Facility History

The Rainier Brewery operated at the Airport Way location from 1883 to 1999. In 1999, the property was purchased by Benaroya Foundation and then sold to Rainier Commons, LLC in August 2003¹. The surrounding properties are small manufacturing facilities and retail stores. There is residential property to the east on the east side of Interstate 5.

In October 2005, the City of Seattle Public Utility Department (SUP) did a survey of the storm water collection system around the old brewery and found PCBs in the system that ranged from 17,500 mg/kg (ppm) to 2,200,000 mg/kg². The same locations were resampled by the SUP in January 2008 and the concentrations dropped by a factor of 100. In February 2008, the SPU scoured the storm water collection system around the Old Brewery and removed the PCB sediments in the storm water collection system.

In May 2006, Rainier Commons, through its consultant Vernon Environmental, Inc. (VEI) conducted a joint investigation of the storm water collection system and out of curiosity sampled the paint of the old brewery's exterior to see if it was the source of PCBs that were ending up in the storm water collection system³. In the VEI report the PCB concentration in the paint sample was 2,300 mg/kg (ppm) and is reported as Aroclor 1254. The City of Seattle Public Utility Department (SUP) found Aroclor 1254 in its samples of sediments collected in the storm water collection system in October 2005 and January 2008.

Other media information:

This facility is subject to regulation administered by the King County under the Clean Water Act (Storm Water Management). The facility has a Resource Conservation and Recovery Act identification assigned; WAD051230004.

TSCA Section 6(e) Notification:

As of the date of this inspection and investigation, there was no notification to EPA regarding the facilities management of PCBs and PCB remediation waste. Rainier Commons has not notified EPA of any PCB handling activities it may take to remediate the PCB waste in the storm water collection system.

Access:

The Rainier Commons is managed by Ariel Development, LLC. To gain access to portions of the facility, permission can be granted by members of the Ariel Development organization. There are public businesses operating at the facility, those businesses, open to the public, can be accessed during business hours.

Contact Information for Ariel Development, LLC:

Contact Name/Title: Mr. Eitan Alon, Property Manager

Mailing Address: 3317 3rd Avenue South, Seattle, Washington 98134

Phone Number: 206-447-0263 x203

Fax Number: 206-447-0299

¹ Site history from Farallon Consulting, Inc., Site Assessment Report, April 14, 2004.

² See EPA March 24, 2009 Inspection report, Attachment VI.

³ Catch Basin Sediment Sample Results Report. Vernon Environmental, Inc. June 2006, Page 5.

Facility Map:

Maps and aerial photographs are under the Attachment I.

Weather:

The weather at the time of this inspection was sunny and warm there has been no rainfall within the past 48 hours.

Description of PCB Inspection

The United States Environmental Protection Agency (EPA) intended to secure information regarding Rainier Commons, LLC's compliance with the regulations promulgated under Section 6(e) of the Toxic Substance and Control Act (TSCA). Specifically, compliance with the regulations found at 40 CFR Part 761 for the management, distribution in commerce, use, disposal, storage, and marking of PCBs and PCB items. This inspection was conducted under the authority of Section 11 of TSCA (Attachment III). This was an announced inspection. This is a follow-up inspection for additional sampling of the paint on the old brewery building.

At approximately 10:00 am on September 1, 2009, Mr. Tristen Gardner and I arrived at the Old Brewery located at 3100 Airport Way South. Shortly after our arrival we met with Mr. Eitan Alon, Property Manager for Ariel Development in the parking lot. I confirmed that Mr. Alon is an employee of Ariel Development, but he was there as a representative for Rainier Commons, LLC. After introductions, I presented my credentials and the Notice of Inspection (Attachment IV). I reviewed the scope of this inspection with Mr. Alon.

The scope of this inspection was to collect additional samples of the paint on the building, both exterior and interior. The following questions were asked of Mr. Alon.

- 1) Has the facility been painted or repairs made to the painted surfaces since the March 2009 site visit? – Mr. Alon answered no, but then clarified that a mural had been painted on the upper level of Building 5 and 6.
- 2) Has the facility been surveyed for PCB contamination; i.e. tested for PCBs in the paint? – Mr. Alon stated no, it had not been tested.
- 3) What type of ongoing PCB paint clean-up activity is taking place and the frequency of that clean-up? – Mr. Alon stated that about every three to four days employees remove paint chips and debris from around the buildings and containerize the debris. This answer was also confirmed with one of the employees that cleans up the paint chips; Mr. Nicky Berrious.
- 4) Has any PCB waste been shipped off-site? – Mr. Alon stated no.
- 5) How is the PCB clean-up waste being managed on site? – Mr. Alon stated the debris was collected in 55-gallon containers and stored inside Building 12 (See Photo Log).

We began the inspection by walking around the outside of the facility and collected paint samples from sections of the wall that were blistering or peeling. Table 1 is a summary of the location and PCB results for the wall samples. The attached Photo-Log recorded the location of the samples. Only one sample is from the interior of the building. This sample was collected from the wall of the storage unit now used to accumulate containers of PCB contaminated debris; Building 12. Mr. Nicky Berrious joined us during the collection of the paint samples. Mr. Berrious is an employee of Ariel Development.

Note: The results in Table 1 are separated by the Monsanto Aroclor. The sum of the Aroclors will give the total PCB concentration for that sample.

Table 1 – PCB Sample Location and Results

Sample No.	Location	Paint Colors	PCB Results
09354100	Building 13 – West Wall	Red overcoat w/ beige and blue under Coat	950 mg/kg – 1254 550 mg/kg - 1260
09354101	Smokestack – West Wall	Red paint over red brick	250 mg/kg – 1254 140 mg/kg - 1260
09354102	Building 12 – Northwest Wall	Red overcoat over red brick	3.8 mg/kg – 1254 7.4 mg/kg - 1260
09354103	Building 12 – West Wall	Red overcoat w/blue undercoat	11 mg/kg – 1254 8.2 mg/kg - 1260
09354104	Building 9 – West Wall	Orange overcoat w/ beige and blue undercoat	7300 mg/kg – 1254 2900 mg/kg - 1260
09354105	Building 8 – North of Loading Dock	Beige w/ metallic undercoat	8500 mg/kg 1254 3900 mg/kg 1260
09354106	Building 5A – Westside/Stairs	Red overcoat over beige	470 mg/kg – 1254 220 mg/kg - 1260
09354107	Building 5A – West Wall	Red Overcoat with damaged stones	3.7 mg/kg 1254 2.8 mg/kg 1260
09354108	Building 6 – West Side Walkway	Green Overcoat w/beige undercoat	12000 mg/kg – 1254 6000 mg/kg - 1260
09354109	Building 1 – West Wall	Brown overcoat w/tan undercoat	No Aroclors Detected
09354110	Building 25 – East Wall	Original beige paint with no overcoat.	7.3 mg/kg – 1254 2.3 mg/kg - 1260
09354111	Interior Building 12 – North Wall	White overcoat and white undercoat	9.4 mg/kg – 1254 6.7 mg/kg 1260
09354112	PCB Drum Marked 07/01/09	Soils and paint chips from around the facility	3800 µg/kg – 1254 1700 µg/kg - 1260

Out Brief:

I discussed the following with Mr. Alon.

- 1 – Split samples were provided to Mr. Alon.
- 2 – EPA still needs to see what is in the paint on the interior of the building occupied by Tully's Coffee Company.

The field portion of this inspection closed at approximately 12:55 pm Pacific Standard Time (PST) on September 1, 2009.

Attachments

- Photograph Log – September 1, 2009
- I – Maps and Aerial Photos
- II – Narrative Report from March 2009
- III – PCB Sample Plan for September 1, 2009
- IV – Notice of Inspection – September 1, 2009
- V – Sample Plan and Sample Results



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 Emergency Response Unit
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140



Site Specific Sampling Plan

Project Name: _____ Rainier Commons PCB _____ Site ID: __10ZZ__

Author: __Bryan Vasser__ Company: Ecology and Environment Inc. Date Completed: __5-19-2010__

This Site Specific Sampling Plan (SSSP) is prepared and used in conjunction with the Quality Assurance Plan (QAP) for the Emergency Response Unit for collecting samples during this Removal Program project. The information contained herein is based on the information available at the time of preparation. As better information becomes available, this SSSP will be adjusted.

When inadequate time is available for preparing the SSSP in advance of the sampling event, a Field Sampling Form may be prepared on-site immediately prior to sampling. This full length version of the SSSP is written after the sampling event and the completed Field Sampling Form attached to it.

1. Approvals

Name, Title	Telephone, Email, Address	Signature
Jeffry Rodin On-Scene Coordinator	206-553-6709; rodin.jeffry@epa.gov USEPA, M/S: ECL-116, 1200 Sixth Ave Suite 900, Seattle, WA 98101	
Kathy Parker ERU Quality Assurance Coordinator	206-553-0062, parker.kathy@epa.gov USEPA, M/S: ECL-116, 1200 Sixth Ave. Suite 900, Seattle, WA 98101	

1. Project Management and Organization

2. Personnel and Roles involved in the project:

Name	Telephone, Email, Company, Address	Project Role	Data Recipient
Jeffry Rodin	206-553-6709; rodin.jeffry@epa.gov USEPA, M/S: ECL-116, 1200 Sixth Ave Suite 900, Seattle, WA 98101	On Scene Coordinator (OSC)	Yes
Bryan Vasser	206-624-9537; bvasser@ene.com Ecology and Environment, 720 Third Avenue, Suite 1700, Seattle, WA 98104	Author of SSSP, START Project Manager	Yes
Kathy Parker	206 553-0062, parker.kathy@epa.gov USEPA, M/S: ECL-116, 1200 Sixth Ave. Suite 900, Seattle, WA 98101	ERU Quality Assurance Coordinator	No
Mark Woodke	206-624-9537, mwoodke@ene.com Ecology and Environment, 720 Third Avenue, Suite 1700, Seattle, WA 98104	START Quality Assurance Reviewer	Yes

Terri Torres	253-922-2310; Terri.torres@testamericainc.com Test America – Tacoma 5755 8 th St. East Tacoma, WA 98424	Laboratory contact	No
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3. Physical Description and Site Contact Information:

Site Name	Rainier Commons PCB	
Site Location	3100 Airport Way Seattle, WA 98134	
Property Size	Multiple buildings on a lot the approximate size of a city block	
Site Contact	Eitan Atan	Phone Number: Unknown
Nearest Residents	On site	Direction: N/A
Primary Land Uses Surrounding the Site	Industrial, commercial	

4. The proposed schedule of project work follows:

Activity	Estimated Start Date	Estimated Completion Date	Comments
SSSP Review/Approval	May 3, 2010	May 24, 2010	
Mobilize to / Demobilize from Site	June 5, 2010	June 9, 2010	
Sample Collection	June 5, 2010	June 9, 2010	
Laboratory Sample Receipt	June 9, 2010	June 9, 2010	
Laboratory Analysis	June 12, 2010	June 26, 2010	
Data Validation	June 26, 2010	July 14, 2010	

5. Historical and Background Information

Describe briefly what you know about the site that is relevant to sampling and analysis for this investigation.

Most of the buildings at the site were built in the 1890's. The facility operated as a brewery until 1999. A fair amount of renovation has occurred at the site in the recent years to convert the buildings from industrial to commercial and residential use, but there are still original walls with polychlorinated biphenyl (PCB)-contaminated paint exposed to the interior ambient air. The site has office space and artist lofts with contaminated paint. Several sampling events have occurred previously at the site showing PCBs in the paint on both the interior walls and exterior walls. The interior walls will be the focus of this investigation under the EPA ERU CERCLA authority; the exterior walls are being investigated separately.

6. Conceptual Site Model

Example: Contaminant: Mercury

Transport Mechanism: vapor moving on air currents

Receptors: people living in the house

Contaminants: PCBs.

Transport Mechanisms: PCB-contaminated dust, air, and building materials.

Receptors: People living or working in the buildings

7. Decision Statement

Examples: 1) Determine whether surface contamination exceeds the established action level;

2) Determine appropriate disposal options for contaminated materials.

The decision(s) to be made from this investigation is/are to:

- 1) Determine whether PCB concentration in interior paint exceeds TSCA action level for removal.
- 2) Determine whether PCB concentrations in indoor ambient air or dust exceed the established action level.
- 3) Determine if brick, plaster or concrete underneath the paint has PCB contamination.
- 4) Determine if wipe sample locations have PCB contamination.

8. Action Level

State the analyte, concentration, and units for each selected action level. Describe the rationale for choosing each action level and its source (i.e. MTCA, PRG, ATSDR, etc.) Example: The action level for total mercury in soil is 6.7 mg/kg (from Regional Screening Level residential).

The following levels were provided to the ERU by an EPA risk assessor.

1. Desired RBACGs

1.1. Air

Analytical methods that can quantify PCB concentrations of $0.01 \mu\text{g}/\text{m}^3$ or lower should insure that risks in the 1 in 1,000,000 range can be determined. If possible, a slightly lower reporting limit would be desirable.

1.2. House Dust

The ability to quantify PCBs in house dust at 0.25 mg/kg, a typical concentration found in house dust, should insure that risks slightly below 1 in 1,000,000 can be quantified. A quantification limit of 0.035 mg/kg would allow detection of risks in the 1 in 10,000,000 range, assuring that risks in the 1 in 1,000,000 range can be accurately determined. However, given the levels of PCBs that have been documented in house dust, it is quite possible that this lower quantification limit may not be needed. A quantitation limit of 0.25 mg/kg is more than adequate to determine if unacceptable non-cancer hazards exist.

1.3. Paint

This action level will be determined by the EPA risk assessor in conjunction with TSCA. The TSCA removal level is 50 ppm for PCBs in paint.

1.4. Wipe

This action level will be determined by the EPA risk assessor.

1.5. Concrete/Brick/Plaster

This action level will be determined by the EPA risk assessor.

II. Data Acquisition and Measurement Objectives

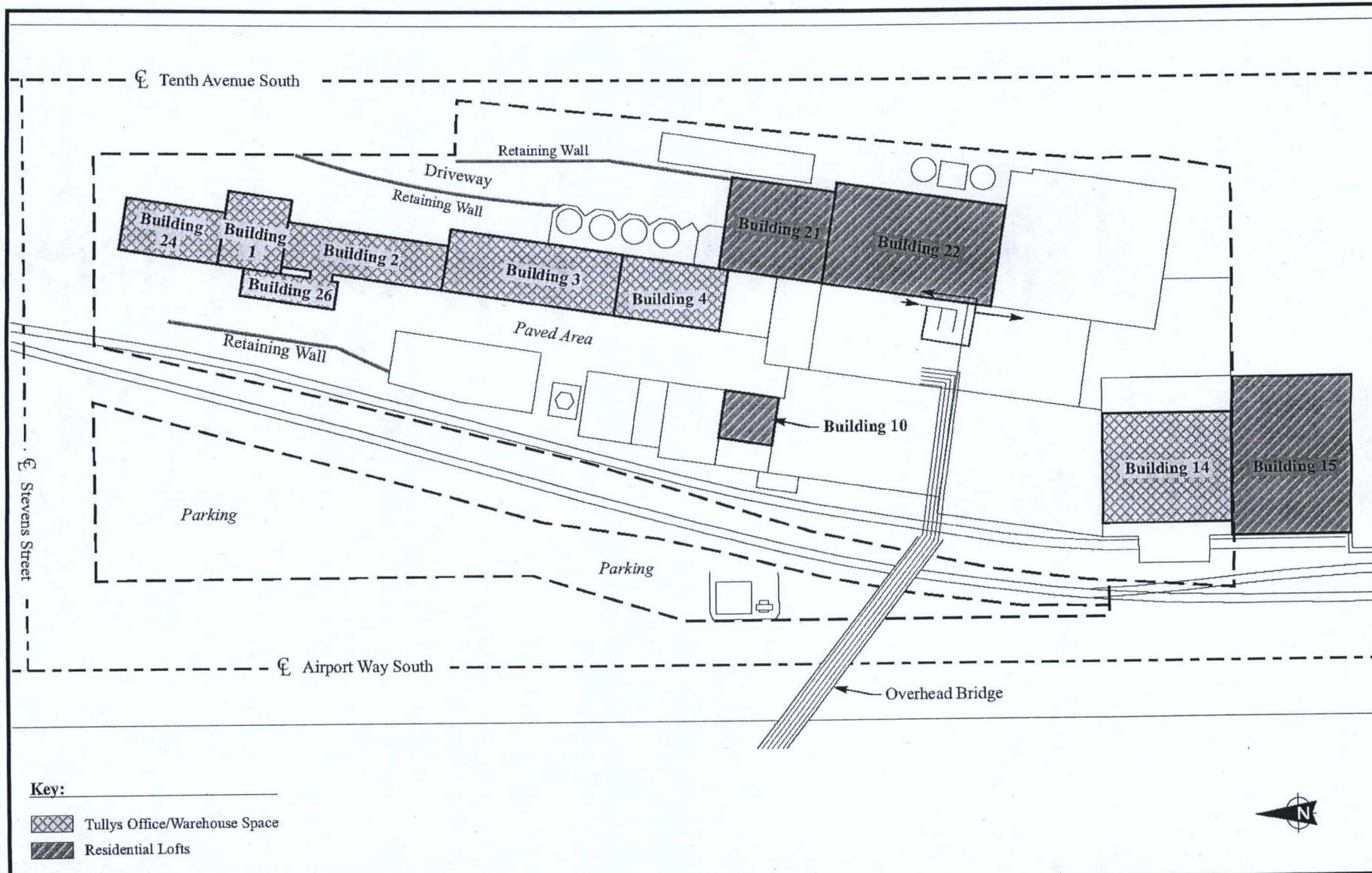
9. Site Diagram and Sampling Areas

A Sampling Area is an area within in which a specific action will be performed.

Examples : 1) Each drum on the site is a Sampling Area;

2) Each section of sidewalk in front of the residence is a Sampling Area;

3) Each sampling grid section is a Sampling Area.



ecology and environment, inc.
International Specialists in the Environment
Seattle, Washington

RAINIER COMMONS PCB
Seattle, Washington

Not to Scale

Figure 1
SITE MAP

Date:
5/4/10

Drawn by:
AES

10:START-3\10040010\fig 1

10. The Decision Rules

These can be written as logical If..., Then.. statements. Describe how the decisions will be made and how to address results falling within the error range of the action level. Examples: 1) In the Old Furnace Sampling Area, the soil in the area around the furnace structure will be excavated until sample analysis with XRF shows no mercury concentrations in surface soil above the lower limit of the error associated with the action level, 18.4 mg/kg. 2) If the concentrations of contaminants in a SA are less than the lower limit of the error associated with the action level, then the area may be characterized as not posing an unacceptable risk to human health or the environment and may be dismissed from additional RP activities. The area may be referred to other Federal, State or Local government agencies.

The following statement(s) describe the decision rules to apply to this investigation:

1. Actions will be defined by the EPA risk assessor based on the analytical results of the sampling event.

11. Information Needed for the Decision Rule

What information needs to be collected to make the decisions – this includes non-sampling info as well: action levels, climate history, direction of water flow, etc. Examples: Current and future on-site and off-site land use; wind direction, humidity and ambient temperature; contaminant concentrations in surface soil.

The following inputs to the decision are necessary to interpret the analytical results:

Living status of each loft area, age of exposed people, PCB concentrations in the paint, air, dust, wipe, and concrete/brick matrices, risk-based action levels from EPA risk assessor.

12. Sampling and Analysis

For each SA, describe:

1. sampling pattern (random, targeted, scheme for composite)
2. number of samples, how many to be collected from where, and why
3. sample type (grab, composite)
4. matrix (air, water, soil)
5. analytes and analytical methods
6. name and locations of off-site laboratories, if applicable.

One grab targeted wipe sample, one grab targeted paint chip sample (when available), one grab targeted dust sample, and one grab targeted concrete/brick/plaster sample from underneath contaminated paint (when available) will be collected from each sampled residence as described in Table 2 below (locations determined by the EPA OSC) and will be analyzed for PCBs following EPA Method 8082.

One composite targeted air sample will be collected from each sampled residence and will be analyzed for PCBs following EPA Method TO-4A.

All analyses will be performed by Test America, Inc.

13. Applicability of Data (place an X in front of the data categories needed, explain with comments)

Do the decisions to be made from the data require that the analytical data be:

- 1) definitive data, 2) screening data (with definitive confirmation) or 3) screening data (without definitive confirmation)?

X **A) Definitive data** is analytical data of sufficient quality for final decision-making. To produce definitive data on-site or off-site, the field or lab analysis will have passed full Quality Control (QC) requirements (continuing calibration checks, Method Detection Limit (MDL) study, field duplicate samples, field blank, matrix spikes, lab duplicate samples, and other method-specific QC such as surrogates) AND the analyst will have passed a Precision and Recovery (PAR) study AND the instrument will have a valid Performance Evaluation sample on file. This category of data is suitable for: **1) enforcement purposes, 2) determination of extent of contamination, 3) disposal, 4) RP verification or 5) cleanup confirmation.** Comments: Definitive Data is necessary when making human health decisions and/or risk based evaluations.

 B) Screening data with definitive confirmation is analytical data that may be used to support preliminary or intermediate decision-making until confirmed by definitive data. However, even after confirmation, this data is often not as precise as definitive data. To produce this category of data, the analyst will have passed a PAR study to determine analytical error AND 10% of the samples are split and analyzed by a method that produced definitive data with a minimum of three samples above the action level and three samples below it.

Comments:

C) Screening data is analytical data which has not been confirmed by definitive data. The QC requirements are limited to an MDL study and continuing calibration checks. This data can be used for making decisions: **1) in emergencies, 2) for health and safety screening, 3) to supplement other analytical data, 4) to determine where to collect samples, 5) for waste profiling, and 6) for preliminary identification of pollutants.** This data is not of sufficient quality for final decision-making.

Comments:

14. Special Sampling or Analysis Directions

Describe any special directions for the planned sampling and analysis such as additional quality controls or sample preparation issues. Examples: 1) XRF and Lumex for sediment will be calibrated before each day of use and checked with a second source standard. 2) A field blank will be analyzed with each calibration to confirm the concentration of non-detection. 3) A Method Detection Limit determination will be performed prior to the start of analysis so that the lower quantitation limit can be determined. 4) If particle size is too large for accurate analyses, the samples will be ground prior to analysis. If the sample contains too much moisture for accurate analyses, the sample will be decanted and air dried prior to analysis.

1. Residents will be asked to start and stop the air sampler based in their residence in order to limit the disturbance. They will be asked to record the each start/stop time and those times will be totaled to acquire a total volume of the air sample.
2. Dust samples will be collected with a vacuum with a removable HEPA filter sock. The lab will sieve the dust and analyze dust of less than 150 microns in size.
3. The vacuum tube, where the HEPA filter sock contacts the plastic, will be decontaminated with an Alconox and water solution between samples to limit cross contamination.

15. Method Requirements

[Describe the restrictions to be considered in choosing an analytical method due to the need to meet specific regulations, policies, ARARs, and other analytical needs. Examples: 1) Methods must meet USEPA Drinking Water Program requirements. 2) Methods must achieve lower quantitation limits of less than 1/10 the action levels. 3) Methods must be performed exactly as written without modification by the analytical laboratory.]

Methods must achieve a lower quantitation limit below the action level.

Samples of brick or concrete may require crushing at the lab prior to extraction and analysis.

16. Sample Collection Information

[Describe any activities that will be performed related to sample collection]

The applicable sample collection Standard Operating Procedures (SOPs) or methods will be followed and include:

Field Activity Logbook

Sample Packaging and Shipping

Sampling Equipment Decontamination

Wipe Sampling

Biological Sampling – Vacuum Sampling, modified for the PCB method

Instrument SOPs:

Other SOPs:

17. Optimization of Sampling Plan (Maximizing Data Quality While Minimizing Time and Cost)

[Describe what choices were made to reduce cost of sampling while meeting the needed level of data quality. Example: The XRF will be used in situ whenever possible to achieve accurate results. Reproducibility and accuracy of in situ XRF analyses will be checked by collecting, air drying, analyzing and comparing five in situ samples at the start of sampling. Where interferences are suspected, steps will be taken to eliminate the interferences by mechanisms such as drying, grinding or sieving the samples or analyzing them using the Lumex with soil attachment.]

The format for sample number identification is summarized in Table 1. Sample collection and analysis information is summarized in Table 2.

**Table 1
SAMPLE CODING**

Project Name Rainier Commons PCB **Site ID:** 10ZZ

SAMPLE NUMBER ⁽¹⁾

Digits	Description	Code (Example)
1,2,3,4	Year and Month Code	YYMM (1006)
5,6,7,8	Consecutive Sample Number (grouped by SA as appropriate)	0001 – First sample of SA

**SAMPLE NAME / LOCATION ID ⁽²⁾
(Optional)**

1,2	Sampling Area	BN – Building Number
3,4	The Building Number	01 to 22
5,6	Matrix Code	AR – Air BR – Brick CT - Concrete DS - Dust PL - Plaster PT – Paint QC – Quality Control WP – Wipe
7,8	Consecutive location number	Starts at 01

Notes:

(1) The Sample Number is a unique, 8-digit number assigned to each sample.

(2) The Sample Name or Location ID is an optional identifier that can be used to further describe each sample or sample location.

Table 2 Proposed Samples

Sample Number	Location ID	Site Location	Paint Sample	Particulate Air Sample	PUF Air Sample	Wipe sample	Dust Sample	Brick/Mortar Sample	Plaster sample
10060001	BN01??01	First floor	1	1	1	1	1	0	0
10060002	BN01??02	Second floor	1	1	0	1	1	0	0
10060003	BN 02??01	First floor conference room	1	1	0	1	1	0	0
10060004	BN03??01	First floor Bar	1	1	0	1	1	0	0
10060005	BN04??01	First floor conference room	1	1	1	1	1	0	0
10060006	BN24??01	First floor	1	1	1	1	1	0	0
10060007	BN24??02	Second floor	1	1	0	1	1	0	0
10060008	BN14??01	Main Storage Area	1	1	0	1	1	1	1
10060009	BN14??02	Equipment Room	1	1	1	1	1	0	0
10060010	BN26??01	Lobby area	1	1	0	1	1	0	0
10060011/10060012	BN10??01	Exposed Brick and Original Wall in Building 10	2	1	1	2	2	1	1
10060013	BN22??01	Workshop on First Floor	1	1	1	1	1	0	0
10060014	BN22??02	Stairwell with previously exterior wall	1	1	0	1	1	1	0
10060015	BN22??03	Residential Unit on 4th floor	1	1	0	1	1	0	0
10060016	BN21??01	Residential Unit on 5th Floor	1	1	0	1	1	0	0
10060017	BN21??02	Unit with young child	1	1	1	1	1	0	0
Total			17	16	7	17	17	3	2

Table 3. Sampling and Analysis (circle or fill in)

Data Quality	Sampling Area	Matrix	Sampling Pattern	Sample Type	Data Quality	Number of Field Samples	Analyte or Parameter	Method Number	Action Level	Method Quant. Limit	#/type of Sample Containers per Sample	Preservative (< 6°C)	Hold Time	Field QC
Lab Analysis	All Decision Areas	Particulates in Air	Targeted	Grab	Definitive	16	PCBs	TO-4a	See Action Level section above	0.001 ug/m ³	1 filter	N/A	7 days to extraction; 40 days to analysis	1 Field Blank 1 Field Duplicate
Lab Analysis	All Decision Areas	Brick/Concrete/Wipe/Plaster	Targeted	Grab	Definitive	2/2/17	PCBs	EPA 8082a	See Action Level section above	0.01 mg/kg	1x8 oz jar With >10 g solid	N/A	14 days to extraction; 40 days to analysis	1 Field Blank for wipe samples 1 Field Duplicate per matrix
Lab Analysis	All Decision Areas	Paint	Targeted	Grab	Definitive	17	PCBs	EPA 8082a	See Action Level section above	0.5 mg/kg	1x8 oz jar With >.2 g paint	N/A	14 days to extraction; 40 days to analysis	1 Field Duplicate
Lab Analysis	All Decision Areas	Dust	Targeted	Grab	Definitive	17	PCBs	EPA 8082a	See Action Level section above	0.5 mg/kg	1 8 oz jar with filter sock inside	N/A	14 days to extraction; 40 days to analysis	1 Field Blank 1 Field Duplicate
Lab Analysis	All Decision Areas	PUF	Targeted	Grab	Definitive	7	PCBs	TO-10a	See Action Level section above	0.001 ug/m ³	1 PUF filter cartridge	N/A	7 days to extraction; 40 days to analysis	1 Field Blank 1 Field Duplicate

Note: For matrix spike and/or duplicate samples, no extra volume is required for air (unless co-located samples are collected), oil, product, or soil samples except soil VOC or NWTPH-Gx samples (triple volume). Triple volume is also required for organic water samples (double volume for inorganic).

Table 4. Common Sample Handling Information

Analysis Type	Sub Analysis	Matrix	Analytical Method	Container Type	Minimum Volume	Preservative	Temperature/ Storage	Hold Time	Source
Metals	Metals Not including Mercury or Hexachrome. Includes TAL, PP, RCRA lists)	Solid	EPA 6000 / 7000 Series	Glass Jar	200 g	n/a	None	6 months	SW-846 ch. 3
		Aqueous	EPA 6000 / 7000 Series	PTFE or HDPE	600 mL	HNO ₃ to pH < 2	Not listed	6 months	SW-846 ch. 3
	Mercury	Solid	EPA 7471B	Glass Jar	200 g	n/a	≤ 6° C	28 days	SW-846 ch. 3
		Aqueous	EPA 7470A	PTFE or HDPE	400 mL	HNO ₃ to pH < 2	Not listed	28 days	SW-846 ch. 3
	Hexavalent Chromium, (Hexachrome, Cr+6)	Solid	Lab-specific soil extraction modification, EPA 7196A	Glass Jar	100 g	n/a	≤ 6° C	28 days to extraction	SW-846 ch. 3
		Aqueous	EPA 218.6 (Drinking Water)	PTFE or HDPE	400 mL	n/a	≤ 6° C	24 hours	SW-846 ch. 3
	XRF	Solid (in situ; on the ground surface)	6200	none	n/a	none	none	Analyze Immediately	n/a
		Solid (ex situ)	6200	plastic bag	200 g	none	none	6 months	n/a
VOCs	VOCs / BTEX	Solid	EPA 5035 / 8260B	*	*	*	*	2 days to lab / 14 days	SW-846 ch. 4
		Aqueous	EPA 8260B	Amber Vial with Septa Lid	2 x 40 mL	HCl to pH < 2	≤ 6° C (headspace free)	14 days	SW-846 ch. 4
SVOCs	SVOCs / PAHs.	Solid	EPA 8270D	Glass Jar	8 ounces	n/a	≤ 6° C	14 days	SW-846 ch. 4
		Aqueous	EPA 8270D	Amber Glass	2 x 1 L	n/a	≤ 6° C	7 days	SW-846 ch. 4
PCBs and Dioxins/Furans	PCBs	Solid	EPA 8082	Glass Jar	8 ounces	n/a	≤ 6° C	none	SW-846 ch. 4
		Aqueous	EPA 8082	Amber Glass	2 x 1 L	n/a	≤ 6° C	none	SW-846 ch. 4
	Dioxins/Furans	Solid	EPA 8280 or 8290	Glass Jar	8 ounces	n/a	≤ 6° C	none	SW-846 ch. 4
		Aqueous	EPA 8280 or 8290	Amber Glass	2 x 1 L	n/a	≤ 6° C	none	SW-846 ch. 4
		Aqueous	EPA 8280 or 8290	Amber Glass	2 x 1 L	n/a	≤ 6° C	none	SW-846 ch. 4
Pesticides and Herbicides	Chlorinated Pesticides	Solid	EPA 8081	Glass Jar	8 ounces	n/a	≤ 6° C	14 days	SW-846 ch. 4
		Aqueous	EPA 8081	Amber Glass	2 x 1 L	n/a	≤ 6° C	7 days	SW-846 ch. 4
	Chlorinated Herbicides	Solid	EPA 8151	Glass Jar	8 ounces	n/a	≤ 6° C	14 days	SW-846 ch. 4
		Aqueous	EPA 8151	Amber Glass	2 x 1 L	n/a	≤ 6° C	7 days	SW-846 ch. 4
NWTPH	Gasoline-Range Organics	Solid	TPHs/NWTPH- Gx	Amber Glass Jar with Septa Lid	4 ounces	n/a	≤ 6° C (headspace free)	14 days	Method
		Aqueous	TPHs/NWTPH- Gx	Amber Vial with Septa Lid	2 x 40 mL	pH < 2 with HCl	≤ 6° C (headspace free)	7 days unpreserved 14 days preserved	Method
	Diesel-Range Organics	Solid	3510, 3540/3550, 8000	Glass Jar	8 ounces	n/a	≤ 6° C	14 days	Method
		Aqueous	3510, 3540/3550, 8000	Glass Amber	2 x 1 L	pH < 2 with HCl	≤ 6° C	7 days unpreserved 14 days preserved	Method
Geotechnical	Particle Size	Solid	ASTM D-422	Glass Jar or	2 x 8	none	n/a	n/a	Method

Analysis Type	Sub Analysis	Matrix	Analytical Method	Container Type	Minimum Volume	Preservative	Temperature/ Storage	Hold Time	Source
	Analysis			Plastic Bag	ounce				
Miscellaneous	pH	Solid	EPA 9045	Glass Jar	8 ounces	n/a	n/a	Analyze Immediately	SW-846 ch. 3
		Aqueous	EPA 9040	PTFE	25 mL	n/a	n/a	Analyze Immediately	SW-846 ch. 3
	Total Organic Carbon (TOC)	Solid	SW-846 9060	Glass Jar	100 mL	n/a	≤ 6° C	28 days	SW-846
		Aqueous	EPA 415.1	PTFE or HDPE	200 mL	store in dark HCL or H ₂ SO ₄ to pH <2	≤ 6° C	7 days unpreserved 28 days preserved	Method
	Cyanide	Solid	SW-846 9013	Glass Jar	5 g	n/a	≤ 6° C	14 days	SW-846 ch. 3
		Aqueous	SW-846 9010C	PTFE or HDPE	500 mL	NaOH to pH > 12	≤ 6° C	14 days	SW-846 ch. 3
	Conductivity	Aqueous	EPA 120.1	PTFE or HDPE	100 mL	n/a	n/a	Analyze Immediately	Method
	Hardness	Aqueous	EPA 130.1	PTFE or HDPE	1 x 1 L	HNO ₃ to pH<2	≤ 6° C	28 days	Method
	Total Suspended Solids	Aqueous	EPA 160.2	PTFE or HDPE	100 mL	n/a	≤ 6° C	7 days	Method
	Total Dissolved Solids	Aqueous	EPA 160.1	PTFE or HDPE	100 mL	n/a	≤ 6° C	7 days	Method
	Nitrate/nitrite	Aqueous	EPA 353.2	PTFE or HDPE	1 x 250 mL	H ₂ SO ₄ to pH <2	≤ 6° C	28 days	Method
	Nitrate	Aqueous	SW-846 9210A	PTFE or HDPE	1,000 mL	n/a	≤ 6° C	28 days	SW-846 ch. 3
	Nitrite	Aqueous	SW-846 9216	PTFE or HDPE	25 mL	n/a	≤ 6° C	48 hours	SW-846 ch. 3, Method
	Fluoride	Aqueous	SW-846 9214	PTFE or HDPE	300 mL	n/a	≤ 6° C	28 days	SW-846 ch. 3
	Chloride	Aqueous	SW-846 9250	PTFE or HDPE	50 mL	n/a	≤ 6° C	28 days	SW-846 ch. 3
	Sulfate	Aqueous	SW-846 9035	PTFE or HDPE	50 mL	n/a	≤ 6° C	28 days	SW-846 ch. 3
	Sulfide	Solid	SW-846 9215	Glass Jar	1 x 4 ounces	Fill sample surface with 2N zinc acetate until moistened.	≤ 6° C (headspace free)	7 days	SW-846 ch. 3
		Aqueous	SW-846 9031	PTFE or HDPE	100 mL	4 drops 2N zinc acetate/100 mL sample; NaOH to pH>9.	≤ 6° C (headspace free)	7 days	SW-846 ch. 3

Key:

* = See individual methods. We typically collect 3xEnCore-type samplers and 1x40 mL VOA vial per sample, keep at ≤ 6°C with no chemical preservative, and they must be at the lab within 48 hours of collection.

C	= Celsius	HNO ₃	= nitric acid	SVOCs	= semivolatile organic compounds
Cr	= chromium	L	= liter	SW-846	= EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods
EPA	= Environmental Protection Agency	mL	= milliliter	TAL	= Target Analyte List
g	=grams	n/a	= not applicable	TPH	= total petroleum hydrocarbons
H ₂ SO ₄	= sulfuric acid	NaOH	= sodium hydroxide	VOA	= Volatile Organic Analysis
HCL	= hydrochloric acid	PCBs	= polychlorinated biphenyls	VOCs	= Volatile Organic Compounds
HDPE	= high-density polyethylene	PTFE	= polytetrafluoroethylene		
Hg	= mercury	RCRA	=Resource Conservation and Recovery Act		

III. Assessment and Response

A Sample Plan Alteration Form (SPAF) will be used to describe project discrepancies (if any) that occur between planned project activities listed in the final SSSP and actual project work. The completed SPAF will be approved by the OSC and QAC and appended to the original SSSP.

A Field Sampling Form (FSF) may be used to capture the sampling and analysis scheme for emergency responses in the field and then the FSF pages can be inserted into the appropriate areas of the final SSSP.

Corrective actions will be assessed by the sampling team and others involved in the sampling and a corrective action report describing the problem, solution, and recommendations will be forwarded to the OSC and the ERU QAC.

IV. Data Validation and Usability

The sample collection data will be entered into Scribe and Scribe will be used to print lab Chains of Custody. Results of field and lab analyses will be entered into Scribe as they are received and uploaded to Scibe.net when the sampling and analysis has been completed.

18. Data Validation or Verification will be performed by:

ERU's general recommendation on validation is that a minimum of CLP-equivalent stage IIA verification and validation be performed for every SSSP involving laboratory analyses. However, stage IIB is preferred if the lab can provide it. Dioxins should be validated at CLP-equivalent stage 4.

	Data Verification and Validation Stages						
Performed by:	I	IIA	IIB	III	IV	Verification	Other:
E and E QA Reviewer			100% CLP		10% CLP		
TechLaw QA Reviewer							
EPA Region 10 QA Office							
MEL staff							
Other:							